

NEW TAXA OF ILEX FROM THE PEOPLE'S REPUBLIC OF CHINA

T. R. DUDLEY¹⁾

Ilex strigillosa T. R. DUDLEY, sp. nov.

[Section *Pseudoaquifolium* S.-Y. HU (1950) Series *Lougecaudatae* S.-Y. HU (1950)].

DIAGNOSIS.

A. I. kengii S.-Y. HU (1950) affinis sed ramulis et gemmis terminalis, dense cinerascentibus puberulento-strigillosis, stipulis tenuiter membranaceis minutis 0.1 mm longis vel minus fugacibus cito caducis, petiolis denso cinerascentibus puberulento-strigillosis aliquando subglabris laminis versus, laminis foliorum minoribus 4—7.5 cm longis 1—2 cm latis basibus acutis ad attenuatis apicibus sensim acuminatis vel caudato-acuminatis acuminibus brevioribus 5—10 (—15) mm longis marginibus integris vel subintegris conspicue sinuolatis et apicibus versus minute sed manifeste melano-glandulosis nervis centralis supra profunde impresso-canaliculatis, infructescentibus hornotinis portatis, pedunculis multo brevioribus 1 mm longis vel minus cinerascentibus puberulento-strigillosis, pedicellis itidem brevioribus 2—4 mm longis dense cinerascentibus puberulento-strigillosis, calycibus aliquantum minoribus 1—2 mm diametro lobis 0.1—0.5 mm longis latisque cinerascentibus puberulento-strigillosis et ciliolatis, fructibus dissimilissimis et minoribus 2.5—3 mm longis 1.5—2 mm diametro globoso-quadrangularis valde 4—8 sulcatis mature maturescentibus rubescentibus e mensis julius exocarpis tenuissimis valde rugoso-sulcatis et dense cinerascentibus puberulento-strigillosis et trichomatibus minuteis sed sub-rigidis erectis vel appressis translucido-nitidis obtectis, pyrenis manifeste divergentibus minoribus 2—2.5 mm longis 1.5—2 mm latis late ovoideis angulato-trigonis utrinque extremitatibus obtusis vel rotundatis faucibus dorso unisulcatis et 3—5 ~~striatis~~ subparallelis vel curvatis faucibus ventro angulatis lacunoso-reticulatis ~~esulcatis~~ et 2—3-striatis, significantibus differt.

This new species is allied to *I. kengii* S.-Y. HU (1950) but differs significantly with densely ashy-white puberulent-strigillose branchlets and terminal

1) Research Botanist, U. S. National Arboretum, 3501 New York Ave. N. E., Agricultural Research Service, U. S. Department of Agriculture, Washington, D. C., 20002, U. S. A.

buds, stipules thinly membranous, minute, 0.1 mm long or less, ephemeral and quickly caducous; petioles densely ashy-white puberulent-strigillose or occasionally subglabrous towards blades; leaf blades smaller, 4—7.5 cm long, 1—2 cm wide, bases acute to attenuate, apices gradually acuminate or caudate-acuminate, acumens shorter, 5—10 (—15) mm long, margins entire or subentire, conspicuously sinuate and minutely but obviously black-glandular towards apices, midveins on upper surfaces deeply impressed-canaliculate; infructescences borne on current year's growth; peduncles much shorter, 1 mm long or less, ashy-white puberulent-strigillose; pedicels much shorter, 2—4 mm long, densely ashy-white puberulent-strigillose; calyces somewhat smaller, 1—2 mm in diameter, lobes 0.1—0.5 mm long and wide, ashy-white puberulent-strigillose and ciliolate; fruits very dissimilar and smaller, 2.5—3 mm long, 1.5—2 mm in diameter, globose-quadrangular, strongly 4—8-sulcate, early ripening, becoming red in the month of July, exocarps very thin, strongly rugose and sulcate, densely ashy-white puberulent-strigillose with minute but rigid, suberect and appressed translucent-glistening trichomes; pyrenes obviously different and smaller, 2—2.5 mm long, 1.5—2 mm wide, widely ovoid, angulate-trigonous, obtuse or rotund at both ends, dorsal faces unisulcate and with 3—5 subparallel or curved striations, ventral surfaces angulate, esulcate, pitted-reticulate and 2—3-striate.

DESCRIPTION.

Small evergreen tree up to 8.5 meters tall. Brachlets blackish, striate, terete, densely puberulent, ashy-white with strigillose trichomes. Terminal buds ashy-white, puberulent with strigillose trichomes, shortly conical with rostellate-curved outermost scales. Leaves borne 2—6 mm apart; stipules minute, thinly membranous, 0.1 mm long or less, ephemeral and quickly caducous; petioles 7—10 mm long, densely ashy-white, puberulent-strigillose, or occasionally subglabrous towards blades, deeply canaliculate on dorsal surfaces; blades subcoriaceous, glabrous, elliptic, 4—7.5 cm long, 1—2 cm wide, shiny green to olivaceous on upper surfaces, lower surfaces olivaceous-brownish and distinctly amber-punctate, bases acute to attenuate, apices gradually acuminate or caudate-acuminate, acumens 5—10 (—15) mm long and mucronulate, margins entire or subentire, but conspicuously sinuate and above the middle provided with minute but very obvious black glands 3—4 mm apart; midveins deeply impressed-canaliculate or glabrous upper surfaces, evident and raised on lower surfaces, lateral veins 6—8 on each side and while indistinct and obscure on upper surfaces are somewhat raised and obvious on lower surfaces. Flowers unknown. Infructescences axillary, fasciculate, 1—4-fruited, borne on current year's growth peduncles very short, 1 mm long or less, densely ashy-white, puberulent-strigillose, bearing several

ovate, acute, minute puberulent-strigillose and ciliolate bracts; 0.5 mm long; pedicels 2—4 mm long, densely ashy-white, puberulent-strigillose. Fruits globose-quadrangular, 2.5—3 mm long, 1.5—2 mm in diameter, strongly 4—8-sulcate, early ripening, become red in July; exocarps very thin, strongly rugose and sulcate, densely ashy-white, puberulent-strigillose with minute but rigid, erect and appressed, translucent and glistening trichomes; calyces persistent, 4-lobed, 1—2 mm in diameter, explanate-patelliform, lobes broadly ovate, obtuse, 0.1—0.5 mm long and wide, ashy-white, puberulent-strigillose and ciliolate; stigmas black, thick, discoid, orbicular, shallowly 4-lobed, 0.5—0.8 mm in diameter; pyrenes 4 per fruit, widely ovoid, angulate-trigonal, obtuse or rotund at both ends, 2—2.5 mm long, 1.5—2 mm wide, dorsal surfaces unisulcate with 3—5 subparallel or curved striations, ventral surfaces angulate, esulcate, pitted-reticulate and 2—3-striate; endocarps coriaceous.

HOLOTYPE:

People's Republic of China, Guangdong (Kwangtung) Province, Sha Lo Shan, Lo-Lo-ha Village, Sin-fung District, fairly common in forest, tree 8.5 meters tall, fruit red, 6–25 July, 1938, Y.W. T. AAM 947(A). *Isotypes*: (MO, NY, US).

The closest specific affinity to *I. strigillosa* is undoubtedly *I. kengii*, which is known presently from Zhejiang (Chekiang), Guizhou (Kweichow) and Guangxi (Kwangsi) Provinces. *Ilex kengii* is well distinguished from *I. strigillosa* by several significantly correlated characters as detailed here. For *I. kengii* the branchlets and terminal buds are completely glabrous; stipules are broadly deltoid, thickened-callose, persistent, up to 1 mm long; petioles are completely glabrous; leaf blades are larger, 4.5—13 cm long, 2—5 cm wide, bases obtuse to cuneate, apices strictly acuminate with longer acumens that are 10—15 mm long, margins are entire and not at all black-glandular or sinuate, midveins are elevated and prominent on both surfaces; infructescences occur only on second year's growth; peduncles are much longer, 3—8 mm long and are completely glabrous; pedicels are somewhat longer, 3—6 mm long and are completely glabrous, except rarely minutely puberulent towards leaf axils; calyces are somewhat larger, 2—2.5 mm in diameter and are completely glabrous, calyx lobes are larger, 0.5—1 mm long and wide, glabrous but with ciliolate margins; fruits are slightly larger, 3—3.5 mm long and in diameter, ripening much later in November, globose and smooth, exocarps thicker and never sulcate or rugose, and are always completely glabrous; pyrenes are longer and narrower, broadly ellipsoidal, 2.8—3 mm long, 1—1.5 mm wide, acute and pointed at both ends, dorsally esulcate and 5—6-striate, ventral surfaces flat and 2—3-striate but not at

all pitted and reticulated.

Ilex strigillosa differs greatly from all other component species of Series Longecaudatae [i. e. *I. buxioides* S.-Y. HU (1950), *I. fukienensis* S.-Y. HU (1950), *I. goshiensis* HAYATA (1911), *I. hayataiana* LOESENER (1941), *I. kengii*, *I. liangii* S.-Y. HU (1950), *I. longecaudata* COMBER (1933) *I. oligodonta* MERRILL & CHUN (1930), and *I. wilsonii* LOESENER (1908)] by flowering and fruiting on current season's growth and by having a unique type of indumentum on the fruit epidermis. The TYPE collection (TAAM 947) of *I. strigillosa* was first recognized as a new taxon by E. D. MERRILL and F. METCALF in *exsiccata*. They proposed, but never published, the name "*I. parvidrupacea* MERR. & METC., sp. nov." and indicated that it was an in ed. name on the label of the type specimen. This epithet, *parvidrupacea*, would have been inappropriate, since S.-Y. HU (1949) correctly pointed out that the fruit of *Ilex* is not a true drupe. An adequate alternative species epithet would have been *parvifructa*, but the erection of *I. parvifructa* EDWIN (1965) from Venezuela prevents application of that name to this new Chinese taxon.

The epithet chosen and proposed here, *strigillosa*, calls particular attention to a most unusual condition in *Ilex*, that of the fruit epidermis being covered with glistening, stiff, suberect or appressed, translucent strigillose trichomes. The same type of indumentum is also found densely on the branchlets, terminal buds, petioles, peduncles, pedicels and calyx lobes of *I. strigillosa*. The only other Chinese species and varieties of *Ilex* that have pubescent fruits or ovaries are, *I. pubilimba* MERRILL & CHUN (1940) [Section Aquifolium A. GRAY (1848) Series Denticulatae S.-Y. HU (1949)], *I. wangiana* S.-Y. HU (1950) Section Aquifolium Series Repandae (LOESENER) S.-Y. HU (1950), *I. gracilis* C. J. TSENG (1981) [Section Aquifolium Series Repandae], and *I. formosana* MAXIMOWICZ (1881) var. *ruijinensis* C. J. Tseng (1981) [Section Aquifolium Series Repandae]. Likewise, *I. brachyphlla* (HANDEL-MAZZETTI) S.-Y. HU (1950) [Section Aquifolium Series Repandae] and *I. jiaolingensis* C. J. TSENG & H. H. LIU (1981) [Section Pseudoaquifolium S.-Y. HU (1950) Series Sideoxyoides (Loesener) S.-Y. HU (1950) in which the rudimentary ovaries of the male flowers and the young ovaries of the female flowers are pubescent.

Ilex tsangii S.-Y. HU (1949) var. *guangxiensis* T. R. DUDLEY, var. nov.

[Section Aquifolium A. GRAY (1848) Series Denticulatae S.-Y. HU (1949)].

DIAGNOSIS.

Differt a typica (var. *tsangii*) foliis congruenter minoribus laminis anguste ellipticis 2.5—5 cm longis 1—1.6 cm latis, nervis lateralibus utrinque lamino-

rum indistinctis et apparenter obscuris, pedicellis fructificantibus ulto brevioribus tantum 1.5—2.5 mm longis, fructibus aliquantum minoribus 3—4 mm longis et diametro, pyrenis endocarpis tenuiter subcoriaceis pariter minoribus 3—3.3 mm longis 1.5—2 mm latis, paginis dorsalis pyreniorum profunde unisulcatis sed conspicue paene laevigatis nec foveolatis vel rugosis, paginis ventralis solummodo parum striato-rugulosis (nec sulcatis).

This new variety, var. *guangxiensis*, differs from the typical variety of the species, var. *tsangii*, by having consistently smaller leaves whose narrowly elliptic blades measure 2.5—5 cm long and 1—1.6 cm wide; the lateral veins are scarcely apparent and indistinct on both blade surfaces; the fruiting pedicels are much shorter, only 1.5—2.5 mm long; the fruits are considerably smaller, 3—4 mm long and in diameter; and the pyrenes with thinly subcoriaceous endocarps are correspondingly smaller, 3—3.3 mm long, 1.5—2 mm wide, the dorsal surfaces of which are deeply unisulcate but conspicuously nearly smooth, not pitted or rugose, and the ventral surfaces are merely slightly striated-rugulose (not sulcate).

HOLOTYPE,

People's Republic of China, Guangxi (Kwangsi) Province, Yao Shan, Tsen-gyuen, in woods of rocky hilltop, small tree, fruit green, 22 June 1936, C. WANG 39477 (A). *Isotypes*: (MO, NY, US).

Ilex tsangii S.-Y. HU (1949) and its typical variety, var. *tsangii* is at present known only from the type locality in northeastern Guangdong (Kwangtung) Province, and is well distinguished from var. *guangxiensis* by several correlated characters. Contrasted with the diagnosis of var. *guangxiensis* presented above, the recognition features of var. *tsangii* are: larger, broadly elliptic to ovate-elliptic leaves, the blades of which measure 5—8.5 cm long and 2—3 cm wide; lateral veins of the leaf blades are very pronounced and elevated on the lower surfaces; fruiting pedicels are much longer, 10—12 mm long; fruits are larger, 5—6 mm long and in diameter; larger pyrenes, 4—4.5 mm long, 3—3.5 mm wide, with thickened coriaceous endocarps that are dorsally deeply sulcate, and the ventral surfaces are strongly reticulated-pitted, ridged, striated and rugose.

The minute, triangular, acute and ciliate calyx lobes of *I. tsangii* var. *guangxiensis* measure only 0.3—0.5 mm long, and are almost completely deciduous as the fruit attains maturity. The TYPE material of var. *guangxiensis* revealed only four intact and very fragile calyx lobes randomly retained at the bases of immature fruits that are designated as being green on the specimen labels. The holotype (A) and the isotype specimens (MO, NA, US) of *I. tsangii*

var. *tsangii* [People's Republic of China, Guangdong (Kwangtung) Province, Tai Mo Shan (Daimao Shan), Tapu District (Dabu Xian), fairly common, dry sandy soil, 8.5 meters tall, 19 July 1932, W.T. TSANG 21232] do not have any calyx lobes persisting at the fruit bases. Accordingly, it is to be assumed that var. *tsangii* demonstrates the same character of caducous calyx lobes as is evident for var. *guangxiensis*.

The field notes recorded on the herbarium labels of the TYPE materials of *I. tsangii* var. *tsangii* (W.T. TSANG 21232) that specify that its fruits are yellow is somewhat perplexing and anomalous. Likewise, the subsequent comment by S.-Y. HU (1949) that states, "The fruit has been reported as yellow in July". It seems highly unusual and improbable that one consistently yellow-fruited species exists as a component of a section and series [Section Aquifolium Series Denticulatae] whose other constituent species are, with one possible exception, all typically red-fruited i.e. *I. chingiana* HU & TANG (1940), *I. denticulata* WALLICH ex WIGHT (1850), *I. graciliflora* CHAMPION (1852), *I. kaushue* S.-Y. HU (1949)—which is indicated in the type description as having yellow fruits in September, *I. latifolia* THUNBERG (1784), *I. nanningensis* HANDEL-MAZZETTI (1934), *I. nuculicava* S.-Y. HU (1949), *I. pubilimba* MERRILL & CHUN (1940), *I. subficoides* S.-Y. HU (1949), *I. suzukii* S.-Y. HU (1949), and *I. uraiensis* YAMAMOTO (1932)]. Typically the sequence of fruit ripening for red-fruited taxa is from green to red, and then with progressive deterioration and decomposition the fruit may become yellowish. In analysis of fruit color with living plants the fruits do not turn from green to yellow and then mature red.

Wild-occurring yellow-fruited (also whitish and orangish) variants of a number of typically red-fruited species are fairly common and have been described, usually at the rank of *forma*, especially among the normally red-fruited deciduous-leaved taxa of Subgenus *Prinos* (L.) LOESENER (1890). Examples include, *I. ambigua* (MICHAX) TORREY (1843) f. *channellii* EDWIN (1957), *I. collina* ALEXANDER (1941) f. *vantrumpii* (BROOKS) CORE & DAVIS (1944), *I. laevigata* (DUMONT DE COURSET) A. GRAY (1856) f. *herveyi* ROBINSON (1908), *I. micrococca* MAXIMOWICZ (1881) f. *tsangii* T. R. DUDLEY (1980), *I. serrata* THUNBERG (1784) f. *leucocarpa* BEISSNER (1908) and f. *xanthocarpa* REHDER (1916), and *I. verticillata* (L.) A. GRAY (1856) f. *aurantica* (MOLDENKE) REHDER (1949) and f. *chrysocarpa* ROBINSON (1900).

Several wild-occurring yellow-fruited (also whitish) *formae* (or *varietates*) of evergreen species indigenous to the United States and to Eastern Asia have

been recognized and described in the literature. Examples of this category of variants within normally red-fruited or black-fruited evergreen species are: *I. cassine* L. (1753) f. *aureo-baccata* TARBOX ex BLAKE (1944) and f. *bryanii* TARBOX ex BLAKE (1944), *I. crenata* THUNBERG (1784) f. *watanabeana* MAKINO (1917), *I. glabra* (L.) A. GRAY (1856) f. *leucocarpa* WOODS (1956), *I. integra* THUNBERG (1784) f. *xanthocarpa* (MATSUMURA & NAKAI) OHWI (1953), *I. myrtifolia* WALTER (1788) f. *lowei* BLAKE (1924), *I. opaca* AITON (1789) f. *xanthocarpa* REHDER (1908), *I. pedunculosa* MIQUEL (1868) f. *aurantiaca* (KOIDZUMI) OHWI (1953), *I. szechwanensis* LOESENER (1901) f. *huiana* T. R. DUDLEY (described in this paper), and *I. vomitoria* AITON (1789) var. *yawkeyii* TARBOX ex BLAKE (1944). Of course, a fairly sizable number of yellow-fruited selections of typically red-fruited taxa have arisen in cultivation, have been provided with cultivar names, and are available commercially or are growing in specialized living collections.

In all probability the type material of *I. tsangii* from Guangdong Province was collected from a yellow-fruited plant of a normally red-fruited taxon. Red-fruited individuals and/or populations of *I. tsangii* most assuredly will be discovered as plant explorations in Guangdong and Guangxi provinces proceed. Upon discovery, this red-fruited expression, if not directly equatable to var. *guangxiensis*, must be designated and described as a new variety, *varietas nova*, since the yellow-fruited variant has already been designated and described by S.-Y. HU (1949) as the TYPE of the species. Accordingly, all yellow-fruited plants of *I. tsangii* must always be known as var. *tsangii*, even though this variant may only be of random and scattered occurrence.

A similar situation exists with *I. sikkimensis* KURZ (1875) which was later described by KING (1886 & 1887 -fide LOESENER, 1901) as having yellow mature fruits. In 1918 and again in 1924 G. FORREST collected in Yunnan Province along the Shweli-Salwin Divide a "bright scarlet" fruited expression of *I. sikkimensis* which COMER (1933) described as *I. sikkimensis* var. *coccinea*. This variety is said to differ from the type by: "A typo drupis coccineis nec flavis differt". Presumably the KING 2583 (K) was collected from a yellow-fruited individual of the normally red-fruited species. Accordingly, all yellow-fruited variants of *I. sikkimensis* should be determined as var. *sikkimensis*, while the typical red-fruited expression must be known as var. *coccinea*.

Ilex szechwanensis LOESENER (1901) var. **huiana** T. R. DUDLEY, var. nov.

[Section *Paltoria* (RUIZ & PAVON) MAXIMOWICZ (1881) Series *Sigmatophorae* (LOESENER) S.-Y. HU (1949)]

DIAGNOSIS.

Differt a typica (var. *szechwanensis*) laminis foliorum plerumque 2—4.5 cm longis 1—2 (—2.5) cm latis marginibus in dimidio superiore perspicue sed minute crenatis (nec serratis) nervis centralis superne valde impresso-canaliculatis, stipulis maioribus (1—) 2—2.5 mm longis, pedicellis brevioribus 2—5 (—6) mm longis semper dense puberulentis, floribus roseolis, fructibus flavis aliquantum minoribus 5—6 mm longis et diametro, pyrenis minoribus 2—4 mm longis 2—3.5 mm latis.

This new variety, var. *huiana*, differs from the typical variety of the species (var. *szechwanensis*) by having generally smaller leaf blades, 2—4.5 cm long, 1—2 (—2.5) cm wide, with margins that are decidedly but minutely crenate (not serrate) on the upper one-half of the blade, and midveins on the blade upper surfaces being strongly impressed-canaliculate; stipules larger, very obvious, (1—) 2—2.5 mm long; pedicels shorter, 2—5 (—6) mm long, always densely puberulent; flowers pink; fruits yellow, somewhat smaller, 5—6 mm long and in diameter; pyrenes smaller, 3—4 mm long, 2—3.5 mm wide.

HOLOTYPE.

People's Republic of China, Guangxi (Kwangsi) Province, Shap Man Taa Shan, Tang Lung Village, S.E. of Shange-Sze (Shangsi), Guangdong Province border, Shang-Sze District (Shangsi Xian), "Sai Ip Tung Ching Shue", 1.5 meters tall, flowers pink and fragrant, fruit yellow, abundant in thickets, 22—31 October 1934, *W. T. TSANG 24548* (NA). *Isotypes*: (A, NY, US).

The type collection of *I. szechwanensis* var. *huiana* (*W. T. WANG 24548*) was assigned by S. -Y. HU (1949) to *I. triflora* BLUME (1826), presumably because of the deeply grooved midveins on the upper surfaces of the leaves, and the densely pubescent-puberulent calyces and pedicels. The material of this new variety, however, is entirely consistent with *I. szechwanensis* by having erose-dentate calyx lobes, 4—7 pairs of lateral secondary veins, and, most importantly, pistillate flowers and resulting fruit being borne singly and only on current seasons' branchlets. *Ilex triflora* has calyx lobes that are rounded and entire, 7—11 pairs of lateral secondary veins; and pistillate flowers and resulting fruit being borne aggregated and fasciculate on second and third year, or older, branches.

Since yellow fruits and pink flowers are very atypical for *I. szechwanensis*, which normally has black fruits and creamy-white flowers, these features, among the other characters detailed in the diagnosis above, are important for distinguishing var. *huiana*. Interestingly, a collection from Guangdong Province [Wan Tong Shan, Ying Tak District, *T. M. TSUI 407* (A, NA, NY, US)] is regarded as being identifiable as *I. triflora* by S. -Y. HU (1949), although it appears, at

least with respect to several vegetative characters, to be somewhat intermediate between *I. triflora* and *I. szechwanensis*. This unusual collection has flowers borne on second and third year, or older, branches that are described on the herbarium label as being red. The distinct possibility exists that since there do not appear to be any significant barriers to hybridization between many species of *Ilex*, particularly when the flowering periods overlap and close affinity is demonstrated by species occurring in the same section and series, and also because *I. triflora* and *I. szechwanensis* both occur in Guangdong and Guangxi Provinces, the TSUI 407 collection could represent a hybrid origin population between these two species.

The status of *I. triflora* var. *sampsoniana* LOESENER (1901) was not resolved by S.-Y. HU (1949) nor is it summarily evaluated here. LOESENER indicated that the type collection [SAMPSON -herb. HANCE 16549 from Guangdong Province, Mt. Pakwan near Canton (LE)] quite possibly would be better placed with *I. szechwanensis*. LOESENER originally treated it as pertaining to *I. triflora* apparently because of its strongly "insculpta" (insculpted and deeply grooved) midveins on the upper surfaces of the leaves. Only examination the original SAMPSON type at LE will solve the conundrum of the correct modern status of var. *sampsoniana*. That is, should it be retained in interspecific rank within *I. triflora*, or would it be better placed within *I. szechwanensis*?

Ilex szechwanensis var. *huiana* is so named to honor Dr. SHU-YING HU of the Arnold Arboretum, Harvard University, who has for forty years been the most prominent specialist of Asiatic *Ilex*.

***Ilex wilsonii* LOESENER (1908) var. *handel-mazzettii* T.R. DUDLEY, var. nov.**

[Section *Pseudoaquifolium* S.-Y. HU (1950) Series *Longicaudatae* S.-Y. HU (1950)]

DIAGNOSIS.

Differt a typica (var. *wilsonii*) pedunculis masculis floribus semper longioribus 8—15 mm longis petalis lobis distingibilis fimbriato-erosis minute ciliolatis, pedicellis floribus feminis brevioribus solo 2—3 mm longis.

This new variety differs from the typical variety (var. *wilsonii*) by the male flowers peduncles always being longer, 8—15 mm long and the petals being discernably fimbriate-erose and minutely ciliate; pedicels of the female flowers are shorter, being only 2—3 mm long.

HOLOTYPE.

People's Republic Of China, Hunan Province, Mte. Yun-Schan, prope urbem Wukand (Wugang), 1170 meters, 15 June 1918, *HANDEL-MAZZETTI* 12124-

male (WU). Isotype, (A).

PARATYPE.

People's Republic of China, Hunan Province, Mte. Yun-Schan, prope urbem Wukand (Wugang), 900—1300 meters, 9—13 June 1918, *HANDEL-MAZZETTI* 12063—female (A, IBSC, US, WU).

The female PARATYPE specimen, No. 12063, is labelled as *I. wilsonii* with *I. memecylifolia* var. *plana* LOESENER (1908) is indicated on the label by *HANDEL-MAZZETTI* as a synonym. S.-Y. HU (1950) referred these two *HANDEL-MAZZETTI* collections to *I. wilsonii* and sunk var. *plana* into synonymy of that species.

The peduncles of the male flowers of *I. wilsonii* var. *Wilsonii* are only 3—8 mm long, and the lobes of the petals are clearly eciliate and entire, not at all fimbriate-erose as they are with var. *handel-mazzettii*. The pedicels of the female flowers of var. *wilsonii* are longer, 4—7 mm long. The mature leaves of var. *handel-mazzettii* are generally larger, 6—8 cm long, (2—) 2.5—4 cm wide, and with shorter apical acumens. The mature leaves of var. *wilsonii* are 3—4 (—6) cm long and only 1—2 (—2.6) cm wide, but with considerably longer apical acumens.

REFERENCES

- AITON, W. 1789. *Hortus Kewensis*, 1, 496 pp.
- ALEXANDER, E. J. 1941. Two New Species from the Appalachians. *Castauea*, 6, 30—32.
- BEISSNER, L. 1908. Kleine Mitteilungen über der neuere Laubgehölze. *Mitteilungen Deutsche Dendrologische Gesellschaft*, 17, 136—141.
- BLAKE, S. F. 1924. A Yellow-fruited form of *Ilex myrtifolia*. *Rhodora*, 26 (312), 231.
- BLAKE, S. F. 1944. In: F. G. TARBOX, Jr. *Some Native Hollies Rare and Common in Brookgreen Gardens*, p. 21.
- BLUME, C. L. 1826. *Bijdragen Flora Nederlandsch Indië*, pt. 17, 1150.
- CHAMPION, J. G. 1852. In: *Hooker's Journal Botany Kew Garden Miscellan* 4, 328.
- COMBER, H. F. 1933. Notes on the Distribution of Certain Chinese and Himalayan Species of *Ilex* with Descriptions of New Species. *Notes Royal Botanic Garden Edinburgh*, 18, 37—62.
- CORE, E. L. & H. A. DAVIS. 1944. In: *Proceedings West Virginia Academy Sciences*, 16, 39.
- DUDLEY, T. R. 1980. Two New Variants of *Ilex* (Aquifoliaceae) from Eastern Asia and the Philippines. *Feddes Repertorium Sp. Nov.*, 91 (9—10), 577—579.
- EDWIN, G. 1957. Notes on *Ilex*. *Rhodora*, 20—23.
- EDWIN, G. 1965. Aquifoliaceae In: B. MAGUIRE, et al. *The Botany of the Guayana Highlands-Part VI. Memoires New York Botanical Gardem*, 12 (3), 124—150.
- GRAY, A. 1848. *A Manual of the Botany of the Northern United States*, ed. 1, 710 pp.
- GRAY, A. 1856. *A Manual of the Botany of the Northern United States*, ed. 2, 739 pp.
- HANDEL-MAZZETTI, H. 1934. *Plantae Novae Chingianae. Pars IV. Sinensia*, 5, 1—16.
- HAYATA, B. 1911. Materials for a Flora of Formosa. *Journal College Science University Tokyo*, 30,

- 471 pp, and 1911, *Icones Plantarum Formosanarum*, 1, 265 pp.
- HU, S.-Y. 1949. The Genus *Ilex* in China. I. *Journal Arnold Arboretum*, 30, 233—344.
- HU, S.-Y. 1949. The Genus *Ilex* in China. II. *Journal Arnold Arboretum*, 30, 348—387.
- HU, S.-Y. 1950. The Genus *Ilex* in China. III. *Journal Arnold Arboretum*, 31, 39—80.
- HU, S.-Y. 1950. The Genus *Ilex* in China IV. *Journal Arnold Arboretum*, 31, 214—263.
- HU, T.T. & T. TANG. 1940. Notes on five new and several other known species of *Ilex* of China. *Bulletin Memorial Fan Institute Biology, Botany*, 9, 245—256.
- KING, G. 1886. (Pre-printed separate). On Two New Species of *Ilex* from the Eastern Himalaya. *Journal Asiatic Society Bengal*, 55(2), 205—266, pl. 13—14. *Ibid.*, 1887.
- LINNAEUS, C. 1753. *Species Plantarum*, 1, 560 pp.
- LOESENTER, T. 1890. *Vorstudien einer Monographie der Aquifoliaceen, Inaugural-Dissertation*, 47 pp, and 1891 in: *Abhandlungen Botanik Verein Brandenburg*, 33(1), 1—45.
- LOESENTER, T. 1901. *Monographie Aquifoliacearum. Pars 1. Nova Acta Academiae Caesareae Leopoldino-Carolinae Germanicae Naturae Curiosorum (Abhandlungen Kaiserlichen Leopoldinschen Carolinischen Deutschen Akademie Naturforscher)*, 78, 598 pp.
- LOESENTER, T. 1908. *Monographia Aquifoliacearum. Pars 2. Nova Acta Academiae Caesareae Leopoldino-Carolinae Germanicae Naturae Curiosorum (Abhandlungen Kaiserlichen Leopoldinschen Carolinischen Deutschen Akademie Naturforscher)*, 89, 1—314.
- LOESENTER, T. 1941. *Aquifoliaceae novae vel minus cognitae. Feddes Repertorium Sp. Nov.*, 50, 333.
- MAKINO, T. 1917. A Contribution to the Knowledge of the Flora of Japan (Nippon). *Journal Japanese Botany*, 1, 11—30.
- MAXIMOWICZ, C. J. 1881. De Coriaria, Illice et Monochasmate. *Mémoires Académie Impériale Sciences St. Pétersbourg, ser. 7*, 29(3), 67 pp.
- MERRILL, E. D. & W. Y. CHUN. 1930. Contributions to our knowledge of Kwangtung Flora. *Sunyatsenia*, 1, 49—84.
- MERRILL, E. D. & W. Y. CHUN. 1940. Additions to our knowledge of the Hainan Flora, III. *Sunyatsenia*, 5, 1—200.
- MIQUEL, F. A. W. 1866 (1867 & 1868). Over de Verwantschap der Flora van Japan met Azië en Noord-Amerika, 25 pp. 1866 (pre-print). Same title in: *Archives Néerlandaises des Sciences Exactes et Naturelles*, 2, 289—348. 1867. Same title in: *Verslagen Mededelingen Koninklijke Akademie Wetenschappen, Natuurkunde (Amsterdam)*, er. 2, 2, 65—89 (*Species Novae Japonicae*, 83—89). 1868. French edition: Sur le caractère et l'origine de la flore du Japon. *Adansonia*, 8, 204—263. 1868.
- OHWI, J. 1953. New Names and Combinations adopted in my "Flora of Japan". *Bulletin Natural Science Museum, Tokyo*, 33, 66—90.
- REHDER, A. 1908. In: *Mitteilungen Deutsche Dendrologische Gesellschaft*, 16, 73.
- REHDER, A. 1916. In: *Mitteilungen Deutsche Dendrologische Gesellschaft*, 24, 223.
- REHDER, A. 1949. *Bibliography of Cultivated Trees and Shrubs*, 825 pp.
- ROBINSON, B. L. 1900. Variations of *Ilex verticillata*. *Rhodora*, 2, 104—106.
- ROBINSON, B. L. 1908. In: *Rhodora*, 10, 34.
- THUNBERG, C. P. 1784. *Flora Japonica*, 418 pp.
- TORREY, J. 1843. *A Flora of the State of New York*, 2, 572 pp.
- TSENG, C. -J., 1981. Contributions to the Aquifoliaceae of China. *Bulletin of Botanical Research (Harbin)*, 1(1—2), 1—44.,

WALTER, T. 1788. *Flora Caroloniana*, 263 pp.

WIGHT, R. 1850. *Illustrations of Indian Botany*, 2, 149 pl.

WOODS, F. W. 1956. *Ilex glabra* forma *leucocarpa*, A White-fruited Holly. *Rhodora*, 58, 25—26.

YAMAMOTO, Y. 1932. Observationes ad Floram Formosanam V. *Journal Society Tropical Agriculture, Taiwan*, 4, 484—487.